

LIMITS ON THE USE
OF BOMBER AIRCRAFT IN EUROPE
IN WORLD WAR II

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I. Introduction

"The question was not one of the air doctrine's validity as much as belief in it by foreign powers."

-Walter Ansel¹

"The Air Staff was not too happy about the effectiveness of these attacks, but the Prime Minister, who saw advantages beyond the immediate damage caused, pressed his opinion strongly upon them."

-Peter Wykesham²

The Second World War is often regarded as a virtually total conflict, with few mutual restraints to bind the belligerents to less than maximum use of their destructive capabilities. While it is generally remembered that poison gas and bacteriological weapons were not used, these limits are usually cited as great exceptions to the rule.

Relatively little notice has been taken of the limits in Europe on the use of conventional high explosive and incendiary bombs in aerial bombardment, limits which remained in effect for an unexpectedly long time after the start of the war. Such limits can not easily be denied by claiming a lack of capability, for serious capabilities for aerial assault did exist, capabilities which were in fact not fully used at any time before 1942.

Various types of explanation for such non-use can be offered, some major and some minor. The satisfaction of moral feeling in neutral countries and the appeasing of the conscience of the country doing the bombing have sometimes been suggested

1. Walter Ansel, Hitler Confronts England, Durham, North Carolina, 1960, Pp. 192-3.

2. Peter Wykesham, Fighter Command, London, 1960, P. 127.

as important and influential, but for both domestic and foreign consumption it has proven easy in the past to make charges sufficient to confuse the issue of "who went first" or of whether one is taking "an eye for an eye".

A more serious explanation for the restraints shown in war is quite straightforwardly that many destructive acts do not in and of themselves serve the interests of the nation capable of them, since interests of nations at war are not all antithetical and no nation therefore destroys as much as it is able to destroy.

It is the contention of this paper that much of the limitation of aerial bombardment in the European theatre of World War II requires yet a further explanation, since many acts of destruction which by themselves would indeed have furthered the destroyer's interests were abstained from, abstained from because of the mutually recognised restraints of a bargaining process, in which each participant saw value in leaving some "utility" to his opponents, while reminding them of his ability to remove it from them.

The interaction of "practical" considerations of what type of destruction is desirable in itself, and "bargaining" considerations of what behavior might be discretely impressed upon an enemy, is the determinant of the nature of the air war in Europe from 1939 at least until 1942, and in some sense, until 1945.

II. September, 1939 - May, 1940: The "Phoney War"

"If there was any part of the early months of war in the West that can justifiably be described as 'phoney', it was the war in the air."

-Telford Taylor¹

Despite many dire pre-war predictions of a total conflict leaving no sanctuary for civilian populations, and despite the existence of a German force of over 1100 bombing aircraft and of an Anglo-French force of approximately 1000, the opening rounds of the Second World War witnessed no bombing raids at all on the populated areas of Germany, Britain, or France.

On the first day of the war, 1 September, 1939, President Roosevelt had addressed an appeal to the belligerent powers for a restriction of aerial warfare to strictly military targets, the formal acceptance of which appeal was announced on the 2nd by the Allies, and on the 18th of September, by the German government.² Yet all evidence indicates that orders to this effect had been issued to each of the air forces in question even before the appeal.

During the German September campaign in Poland, the Luftwaffe was used primarily in close support of army units, or in attacks on the airstrips of the Polish Air Force. A series of attacks was carried out on Warsaw itself in the first week of the war, and again in the final siege of the city, but orders were issued to all crews in the first raids to aim with care at bridges and communications targets, and the bombings of the final

1. Telford Taylor, The March of Conquest, New York, 1958, P. 75.

2. Charles Webster and Noble Frankland, The Strategic Air Offensive Against Germany, London, 1961, P. 134.

siege were explained by the Germans as close tactical support against resisting enemy positions.¹

Whatever the implications of the Polish campaign, German operations in the West were limited to reconnaissance flights and to minelaying and attacks on coastal shipping. Orders to the Luftwaffe in this early period were so strict as to preclude almost any attack which would be likely to result in bombs falling on British or French soil.² Allied bombers, similarly restricted, conducted only some reconnaissance missions, leaflet raids, and a few attacks on ships and bases of the German fleet. Even the few raids made against naval shore bases on both sides were limited to targets well isolated from populated areas.³

The German invasion of Norway in April, 1940 saw a use in that country of both bomber forces, again in a tactical role. No expansion of the air war in the West was to occur, however, until the invasion of the low countries on May 10, more than eight months after the outbreak of the war.

For these first eight months, then, the exemption from air attack applied not only to the capital cities of Berlin, London and Paris, but to all other populated areas of the three countries, however close to military or industrial targets.

The Allied decisions in August and September, 1939 not to launch a strategic air attack on Germany were based on estimates of the size of the German Air Force, and of the capabilities of

1. J.R.M. Butler, Grand Strategy, Vol II, London, 1957, P. 20.
Basil Collier, The Defence of the United Kingdom, London, 1957, P. 79.

Albert Kesselring, A Soldier's Record, New York, 1954, P. 42.

2. Werner Baumbach, Broken Swastika, London, 1960, Pp. 69-70.

Adolf Galland, The First And The Last, New York, 1954, P. 19.

3. Webster and Frankland, Op. Cit., P. 140.

German
subs

How were orders
carried out?

this force, estimates which seemed valid at the start of the war, but which have since been shown to be quite unrealistic.

By 1938 the Allies had seen signs of rapid growth in the Luftwaffe, growth by which the Germans seemed to reach parity with, and then surpass, Allied air strength. In the interpretation of this apparent German superiority (the Allies in 1939 rated the Luftwaffe bomber force at 2100 instead of the actual 1100), the Allied governments drew upon air power theory formulated in the years since 1918, and reached truly frightening conclusions as to the peril to which their homelands were now exposed.¹

Strategic planners in Britain and France between the wars had come to believe that relatively moderate tonnages of high explosives dropped for one or two days on a few large cities (a "knock-out blow") would cripple not only a nation's civilian life, but the operation of industry and government, thus imposing strong pressures for a negotiated peace of surrender.² These estimates (traceable in part to the Italian General Giulio Douhet's The Command Of The Air, which stressed bomber capabilities, and treated other forms of air strength as unnecessary)³ were thought to be particularly applicable to London in England and Paris in France, where concentrated, single metropolitan areas held the nerve centers of national political and cultural life, together with a large part of the heavy industry of the country, and a good deal of its population.⁴

1. Butler, Op. Cit., P. 33.

2. Collier, Op. Cit., P. 1.

Constantine FitzGibbon, The Blitz, London, 1957, Pp. 6-8.

3. J.M. Spaight, Air Power and War Rights (3rd Ed.), London, 1947, P. 32.

4. Collier, Op. Cit., Pp. 31-32.

In 1920 Lord Balfour estimated that a steady assault of only 75 tons of high explosives a day would quickly make London untenable for both the British government and the civilian population;¹ as later as 1937, a Joint Planner's Report to the Chiefs of Staff still forecast that 150,000 casualties a week would be suffered by London in an air attack.² The extent to which such extreme conclusions had influenced not only the Allied planners, but also the general public, was illustrated in September, 1938, when almost a third of the population of Paris rushed to leave the city during the Munich crisis, and when trenches were spontaneously dug as bomb shelters in London's Hyde Park.³

Douhet believed, moreover, that the proper counter to such aerial attack was to equip one's self with the better bomber force, and to strike earlier and harder in an "offensive counter-force" sense at the enemy's strategic centers and aircraft industry.⁴ In the early 1920's, when Germany had no air force and Britain and France saw themselves as potential aerial antagonists, the calculations of the vulnerability of Paris and London did indeed produce primarily bomber forces in the two countries;⁵ after 1935, however, the Western planners came to see Germany as the only air enemy, an enemy against which some serious damage could be directed by air raids, but an enemy with enough dispersal of its population centers to preclude a "knockout blow". A "knockout blow" against London or Paris was still however to be feared.⁶

1. Ibid., P. 11.

2. Webster and Frankland, Op. Cit., P. 89.

3. John Wheeler-Bennett, Munich: Prologue To Tragedy, New York, 1948, P. 11.

4. Spaight, Op. Cit., P. 32.

5. Collier, Op. Cit., P. 15.

6. Webster and Frankland, Op. Cit., P. 79.

The apparent rapid growth of the Luftwaffe, coupled with this belief in an inherently lesser vulnerability of Germany to a "knockout" attack, had led the RAF in 1938 to reverse its bomber emphasis of the inter-war period, and to frantically begin building up its fighter forces. The French Air Force over this period, hamstrung in its modernization program by a series of political crises, not only ceased to develop its strategic bomber forces, but gained no compensating strength in its air defenses.¹

The Allied leadership thus was left in 1939 with a serious apprehension as to what the effects of German bombing would be, with no matching confidence, however, in the ability of Allied bombers to destroy the German capability for air attack. Allied offensive attacks did not promise to save London and Paris, defensive measures seemed only slightly able to help these cities, only the holding of German population centers as intact hostages might succeed in sparing them.² The British and French governments therefore saw the gains of restraint, the avoidance of horrible destruction to their cities, as outweighing the costs, the missed opportunities for a strategic weakening of Germany; no reversal of this opinion was to have effect until May, 1940.

The German decision, on the other hand, to hold back the Luftwaffe in 1939 stemmed from calculations quite different from those of Chamberlain and Daladier. The German Air Force, unlike those of Britain and France, seems never to have really accepted

1. Butler, Op. Cit., P. 33

2. Webster and Frankland, Op. Cit., P. 104.

Douhet's theories of the omnipotence of the bomber, and with the exception of the short tenure of General Walther Wever (killed in a crash in 1936), the Luftwaffe did not seek to develop a true long-range, high-payload, strategic bombing aircraft.¹ Despite its independent status and a tendency to revel in its aerial accomplishments, the Luftwaffe was in fact satisfied with the functions of close support to the ground forces, and the maintenance of tactical air superiority, the precise functions which Douhet (and his disciples) tended to regard as superfluous.²

As the German leadership did not believe in the feasibility of the "knockout blow" against its enemies, it similarly did not fear any such blow against Germany. Yet Hitler was nevertheless very averse to any bombing at all of Germany, not for fear of the total breakdown envisaged in London and Paris, but because of his personal desire to spare Germany all possible wartime inconvenience, and because of a fear that the enthusiasm of the German people for his regime might not survive the hardships of the war. Hitler's policies on production of consumer goods, on the mobilization of women, etc., all show his strong aversion to imposing a real austerity on Germany, and his aversion to an aerial exchange of strategic attacks sprang from the same motive.³

Apart from the paramount desire of avoiding an assault on Germany, Hitler for the first two months of the war also still cherished the hope of a negotiated peace with France and Great

1. Taylor, *Op. Cit.*, P. 24.

2. Derek Wood and Derek Dempster, The Narrow Margin, London, 1961, Pp. 44-5.

3. Paul Kecskemeti, Strategic Surrender, Stanford, California, 1958, Pp. 55-7.

Britain, on the basis of the status quo achieved in the East, thus additionally precluding a Luftwaffe offensive which might further antagonize the Allies.¹

Anxious, therefore, to avoid an actual exchange of blows, the German leadership strove to build up the deterring fears of the Allies; fears which the Luftwaffe did not feel itself capable of fulfilling;² the Germans were however not averse to additionally exploiting such fears for lesser purposes, and the successive take-overs of Austria, the Sudetenland, and Bohemia-Moravia all involved subtle references by Goering and others to the possibility of "total destruction" raining down from the air, if German demands were resisted.³

Thus we find the German leadership down to September, 1939 playing the somewhat dangerous game of bluffing a course of action which at all costs it wanted to avoid, a bluffing based on the exaggerated fears of its opponents. Hitler thus saw little possibility of victory in a serial assault on the population centers of the Allies, and for several reasons, he was extremely reluctant to have his own population centers bombed.

Hence German policies emphasized air defense and ignored long-range bombers; hence the German Air Force did not initiate attacks on Allied cities in 1939.

1. Ibid, P. 55.

2. Ansel, Op. Cit., Pp. 192-3.

3. J.M. Spaight, Bombing Vindicated, London, 1944, P. 18.

III. May, 1940 - June, 1940: The Defeat of France

"But the vast extension of the area from which the blow might fall, the belief that it might actually fall in a few weeks, and the cool calculation of our chances of parrying it, were together something new."

-J.R.M. Butler¹

?!
What were
orders, purposes?
The German attack of 10 May on Belgium, The Netherlands, and Luxembourg, with its ensuing offensive into France, saw the use of the Luftwaffe in a role similar to that played in Poland, aiming to destroy opposing air forces, achieve air superiority, and give tactical support to the army. On the 14th of May, in the confused fighting around Rotterdam, a force of dive bombers destroyed a considerable portion of the city, which was again, however, explained by the Germans as a tactical move against a defended town (although some of the more bombastic German propaganda was not so careful to indicate circumscription).² No clear deviation from the pattern of tactical bombing on the German side was in fact ordered, as the German forces rolled rapidly westward through Belgium to the Channel. In the period up to the French surrender on June 17, Paris itself was not bombed, targets elsewhere in France of a non-military nature were generally spared, and only a very few raids were made on Great Britain, raids generally limited to RAF fighter strips in south-eastern England.³

On 15 May, the day after the bombing of Rotterdam, however, RAF Bomber Command had received orders to start striking at targets in northwestern Germany, orders which were to change

1. Butler, Op. Cit., P. 211.

2. Kesselring, Op. Cit., P. 57.

3. Collier, Op. Cit., P. 156.

from day to day as the Allied position in France collapsed. In the period up to the French surrender, raids were alternately conducted on German ground forces, on the German synthetic oil industry, on communications links from Germany to the front, and on various other "panacea" targets in the Ruhr. The bombing of Germany itself was therefore not a sustained or heavy effort, and specific objects of military significance were always the target; the attacks were, however, conducted at night and on targets close to or in cities, thus subjecting the civilian population of portions of northwestern Germany to their first bombardment. No raids were conducted as yet against Berlin, or against other cities in the East of Germany.¹

With the Allied evacuation of Dunkirk and the French surrender, German air activity came to a pause, and the British effort was predominantly, although not completely, pulled away from targets in Germany and directed against the coastal and shipping facilities needed for a German invasion of Britain. The French Air Force had been limited throughout the campaign to giving close support to the Allied ground forces, and no French strategic raids were launched against Germany. With the entry of Italy into the war in June, the French government prevented British "Haddock Force" bombers from leaving bases in southern France on raids into northern Italy.²

By June, Paris and northern France were occupied, and southern France was out of the war. London and the other large

1. Webster and Frankland, Op. Cit., P. 148.

2. Denis Richards, Royal Air Force 1939-45, Vol. I, London, 1953, P. 146.

British cities, however, had not yet been subjected to bombing, while Berlin and most (but not all) German cities still enjoyed a similar dispensation. Those cities of Germany which had been attacked had not been heavily bombed as yet, and the attacks had not inflicted maximum damage on them. The air war had lost a participant, but it was still far from unlimited.

The German restraints observed through the campaign in the Low Countries and France demonstrated the continuing German desire to impress distinctions on the Allies which would prevent a heavy assault on German cities, a desire which at times was however crossed by the irresponsibility of German propaganda agencies, and by the inherent haziness of the distinction between tactical and strategic operations.

It was the case, moreover, that Hitler again had high hopes of negotiating an end to the war with Britain after the defeat of France, and that he hoped to make such a settlement easier by showing restraints in his conduct of the campaign.¹ It was felt that the possession of intact cities might make the British feel that they had more to gain by a peace. The restraints shown in the sparing of French cities similarly were intended to give the French a stake in an early surrender, something which the Luftwaffe could easily deny them if it desired, but which could be retained by a speedy French capitulation.

How critical was this?

The extreme British fears of a "knockout blow" had however been considerably moderated over the period of September, 1939

1. Ansel, Op. Cit., P. 71.
Fitzgibbon, Op. Cit., P. 23.

to May, 1940, as civil defense and air defense preparations in the United Kingdom began to show some progress, as newer and more sober estimates were made of the nature of aerial bombardment, as new perils arising for Britain tended to reduce the relative importance of the aerial threat, and as Winston Churchill replaced Chamberlain as the British Prime Minister.¹

A segment of the RAF Air Staff ^{however} moreover still felt (as it had before the war) that significant results might be achieved by a precision assault on a few "key" targets in Germany; these planners had continued to press for permission to begin such an offensive, to at last put Bomber Command to some use.² The fate of Rotterdam and the ambiguity of German ^{no Dutch Bomber Command} declarations about this instance of bombing moreover reduced British prospects of being forever spared; in view of the German successes on the ground, it was felt that it might, in fact, be advantageous to bait the Luftwaffe onto military targets in Britain (thus easing pressure on the forces in France, and bringing to action those RAF fighter squadrons which had in any event to be held in Britain).³

For all these reasons, the order to commence a program of "precision" night bombings of military and industrial targets in Germany was given on 15 May. The British had not yet given up hopes of being spared severe bombardment of their cities, nor had they decided to end all their self-restraints; the

1. Butler, Op. Cit., P. 211.

2. Webster and Frankland, Op. Cit., P. 244.

3. Fitzgibbon, Op. Cit., P. 42.

Richards, Op. Cit., P. 122.

prospect of German bombardment had merely become a less terrifying one, while the hope of avoiding it was no longer as bright, thereby making lesser British restraints now seem appropriate. The exemption of Berlin from attack was still maintained, in hopes that London might yet be spared, and in face of the physical disadvantages of long-range strikes against eastern Germany. While it was thought necessary to attack by night to avoid high casualties, it was still intended that target discrimination would be practiced; the extent to which inaccuracies at night would weaken this distinction in the eyes of the attacked country was not appreciated (an error which was to be repeated by both sides at several more critical points in the exchange of blows).¹

*like attack
on Athens*

Right to the surrender, the French government still lived in a real terror of the fate that might befall its undefended and unprepared cities, and the British raids on Germany throughout the campaign were conducted against French desires.² The projected raids against northern Italy were thus forcibly stopped by the French to prevent a feared massive Italian retaliation against Nice and Marseilles.

Have the French changed?

1. Webster and Frankland, Op. Cit., P. 145.

2. Ibid, P. 143.

Richards, Op. Cit., P. 111.

IV. June, 1940 - August, 1940: The Battle of Britain

"It is also stressed that every effort should be made to avoid unnecessary loss of life among the civil population."

-Hermann Goering¹

Through the early phases of the Battle of Britain, RAF Bomber Command was directed in large part against the German airstrips in France and the German shipping being assembled on the coasts facing England, and only to a smaller extent, against the targets of the Ruhr valley and northwestern Germany. Raids against Germany were generally conducted at night, but still with some attempt to emphasize military and industrial targeting and avoid civilian casualties. No raids at all were made on Berlin, or on cities having no industrial significance.²

German air activity from 17 June to 10 July limited itself to a series of minor probing attacks of which the targets usually were British airdromes. On 10 July, however, began a heavy assault on English coastal shipping which was to continue until 12 August, when the massive attack shifted to airdromes, and for the first time, to plants of the British aircraft industry.³ Thus while the British public still was spared serious exposure to attack, it had become more exposed after the 12th, as the Luftwaffe not only went after RAF stations (most, but not all, of which were away from built-up areas), but also after aircraft factories, many of which were in or near population centers. The

1. Wood and Dempster, Op. Cit., P. 220.

2. Webster and Frankland, Op. Cit., P. 148

3. Collier, Op. Cit., Pp. 450-9.

Luftwaffe's attacks continued to be primarily by daylight up to the 24th of August, and aimed quite specifically at precise targets which would contribute to the achievement of air superiority over the RAF.

Thus while Germany continued to be spared the bombing of its capitol and to be subjected only to minor attacks on a few of its population centers, Great Britain was undergoing a very intense assault on the supporting facilities of its air force, which nonetheless still left most of its population centers, particularly London, unscathed. The German assault, moreover, was being carried out so as not to inflict serious civilian casualties even in the area of attack.¹

The German victory in France had brought the threat of occupation to Britain, a prospect which made safety from aerial bombing seem a minor question. While the moderate British campaign of night attacks against Germany continued to observe rules of discriminate bombing, the incentive for such limits came thus to rely less and less on bargaining considerations relative to the safety of British cities, and more simply on the high practical results the target selectors continued to expect from attacks on "key" industries. The German invasion threat had not yet removed all significance from mutual aerial restraints for the British, but it had again seriously reduced this significance.²

The lull in the German air effort illustrated Hitler's continuing desire for a negotiated peace. The abandonment of

1. Wood and Dempster, Op. Cit., P. 220.

2. Webster and Frankland, Op. Cit., P. 150.

such hopes and the decision to prepare for an invasion of Britain produced a vast Luftwaffe effort aimed at the achievement of air superiority over the RAF, an achievement regarded as the sine qua non for a successful invasion.¹ The initial massive attacks on shipping thus were planned primarily to force the RAF into a battle which would exhaust most of its strength; the subsequent shift to the airdromes and facilities of Fighter Command, and to the aircraft industry, was designed to complete this attrition process.²

The care nonetheless shown to limit civilian damage in this German operation still stemmed largely from hopes for a similar discrimination in RAF attacks on Germany, and, in addition, to a new desire, perhaps, to preserve the shock of a "terror" assault for the most strategic moment on the day of the invasion. If and when bright prospects of a German conquest of Britain showed themselves, the dangers of a prolonged RAF retaliation would disappear, and the temptation to treat Britain as one more "tactical area" open to bombing would be great.³

For the period of the Battle of Britain, however, the intention remained in effect that Luftwaffe air supremacy should be won without harming the "hostages" of London and other British cities.⁴ Operating within such limits, losses to the Luftwaffe were considerably higher than expected, and higher than those of the RAF; yet the precise, daylight attacks on RAF bases began to show results, threatening to destroy the communi-

1. Drew Middleton, The Sky Suspended, New York, 1960, P. 35.

2. Collier, Op. Cit., P. 234.

3. Peter Fleming, Operation Sea Lion, New York, 1957, P. 278.

4. Wood and Dempster, Op. Cit., P. 222.

ations net which had given Fighter Command advantages compensating for its numerical inferiority.¹

Thus, as the Luftwaffe displayed a restraint and discretion in its choice of targets in Britain, a threat of German tactical victory in the air arose; yet the danger of such a German victory rapidly was making this German discretion worthless to the British.

1. Middleton, Op. Cit., P. 148.
Wykesham, Op. Cit., P. 114.

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1. Middleton, Op. Cit., P. 148.
Wykesham, Op. Cit., P. 114.

V. August, 1940 - May, 1941: The "Blitz"

Evidence ?

"We ask no favour of the enemy. We seek from them no compunction. On the contrary, if tonight the people of London were asked to cast their votes whether a convention should be entered into to stop the bombing of all cities, the overwhelming majority would cry, 'No, we will mete out to the Germans the measure, and more than the measure, that they have meted out to us'."

-Winston Churchill¹

On the 24th of August, 1940, the Luftwaffe, still concentrating its daytime attack on the installations and supporting industries of the RAF, added a series of night attacks on industrial targets in cities around England.² Although London was not programmed as a target, navigation and accuracy inevitably suffered at night, and several planes did accidentally drop their bombs on London on the 24th (London had, in fact, been accidentally bombed before, as early as the 18th of June).³ The extension and change in form of the Luftwaffe raids thus once more increased the exposure of the British populace to aerial attack, if only because of the lesser accuracies of night bombing. As yet no serious raids had occurred, however, on the London area, or on targets not having industrial or military significance. *Was this due to English?*

On the 25th of August, however, 95 aircraft of Bomber Command were dispatched on the first strike against Berlin (of which 81 found the target), a strike executed as usual by night, intended nonetheless to be precision bombing of industrial targets.⁴ Berlin was now placed on the regular target list alongside the invasion.

1. Spaight, Bombing Vindicated, P. 45.

2. Collier, Op. Cit., P. 203
Richards, Op. Cit., P. 171.

3. Collier, Op. Cit., P. 207.

4. Arthur Bryant, The Turn of the Tide, London, 1957, P. 213
Collier, Op. Cit., P. 234.

ports and the Ruhr.¹

On the 7th of September the Luftwaffe halted most of its attack on the airdromes and began a heavy assault on the city of London, an assault which was to continue for two months, until the middle of November.² While the orders to the German crews were to bomb carefully and not indiscriminately, the sheer weight of the night attacks tended to mitigate the effects of such orders.³ After the 14th of November, attacks were extended again to areas outside of London, targets and aiming points still being chosen for industrial potential, the opening of the new phase being a severe raid on Coventry.⁴ Intensive raids alternating between London and the lesser cities of Britain continued through the winter and spring, until the middle of May, 1941.

Over the period of the "Blitz" Bomber Command continued to hit an assortment of targets including the Ruhr, northern Italy, Berlin, invasion shipping, German naval bases, and various special industrial sites around northwestern Germany. On 30 October, 1940, it was decided, moreover, to seek targets with a supplementary effect for stray bombs, i.e. targets surrounded by populated areas.⁵ On 12 December an attack experimentally designed to inflict maximum destruction on a German town was ordered, the "area bombing" attack being executed on Mannheim on the night of the 16th, with disappointing results.⁶

1. Ibid, P. 235.

2. Ibid, Pp. 234-261.

3. Ronald Wheatley, Operation Sea Lion, Oxford, 1958, P. 78.

4. Richards, Op. Cit., P. 211.

5. Ibid, P. 231.

6. Ibid, P. 234.

[Investigate German threats in early part of war]

industry?

"bonus"

Had not Germans done this to Rotterdam & Coventry; Germany; and threatened it against others (Prague; Vienna?; ...)

Early 1941 saw attacks on German U-Boat bases, and another area attack on Bremen, followed through the rest of the spring by similar attacks on a series of German North Sea ports. Yet as British bomber forces were drawn away to the Middle East and to anti-submarine patrols at sea, the British failed to match the bombing tonnage of the German assault.¹

The winter of 1940-41 thus saw all possible military and industrial targets opened to attack in both Britain and the Axis homelands. No deliberate "terror-maximizing" attack had as yet been launched against Britain, and only a few with limited resources had as yet been launched against Germany, but the inaccuracies of navigation and bombardment on night flights made the results of "terror" attacks seem not very different from "discriminate" or "precision" attacks.

Winston Churchill in his memoirs cites the bombs dropped on London on 24 August as his ^{felony murder} moral justification for the Berlin raid of the 25th, and he moreover indicates that he expected a serious German assault on London sooner or later in any event:

"The sporadic raiding of London towards the end of August was promptly answered by us in a retaliatory attack on Berlin..."

He (Hitler) took, of course, full advantage of our reprisal on Berlin, and publicly announced the previously settled German policy of reducing London and other British cities to chaos and ruin."²

? Yet the accidental nature of the bombings of the 24th was fairly clear, and a serious German attack on London in the

1. Arthur (Lord) Tedder, Air Power In War, London, 1947, P. 106.

2. (Sir) Winston Churchill, The Second World War (Vol II), Boston, 1949, P. 342.

absence of provocation could be no means be a certainty for Churchill. There was therefore a reason why Churchill took the step which indeed made an early German assault on London more likely, and it was not simply the moral need to retaliate for the stray bombs that had fallen:

"Far more important to us than the protection of London from terror-bombing was the functioning and articulation of these airfields and the squadrons working from them. In the life-and-death struggle of the two air forces, this was a decisive phase. We never thought of the struggle in terms of the defence of London or any other place, but only who won in the air."¹

"The War Cabinet were much in the mood to hit back, to raise the stakes, and to defy the enemy..."²

"It was therefore with a sense of relief that Fighter Command felt the German attack turn on to London on September 7, and concluded that the enemy had changed his plan."³

"The night attacks on London for ten days after September 7 struck at the London docks and railway centres, and killed and wounded many civilians, but they were in effect for us a breathing space of which we had the utmost need."⁴

How well established?
In fact, Churchill's decision to bomb Berlin almost certainly was a conscious effort to bait Hitler into an immediate shifting of the Luftwaffe attack on to London, away from the RAF Fighter Command bases which were beginning to collapse under the strain. The decision was made in the context of the threat of a German invasion, which was in fact expected momentarily.⁵ A continuing Luftwaffe assault on the airdromes threatened not

1. Ibid, Pp. 330-1

2. Ibid, P. 342.

3. Ibid, P. 331.

4. Ibid, P. 332.

5. Alexander McKee, Strike From The Sky, Boston, 1960, P. 221.

only to weaken the bases as flying strips, but also to destroy enough on-base communications and control centers (the "Sector-Stations", which digested radar information and guided the fighter groups in the air) to make southern England untenable for the RAF. A withdrawal of the RAF to the North would have given the Luftwaffe the superiority it needed over the Channel to support an invasion.¹

Churchill's assessment, therefore, of the value of sparing London from attack may not have declined seriously from May to August, but his estimation of the value of inducing Hitler to bomb London instead of the airdromes had indeed risen. Churchill admits his desire in late August for an immediate shifting of the Luftwaffe offensive from the RAF airstrips to London, and he admits his personal responsibility for the August 25th bombing of Berlin; he could hardly deny an awareness at the time of the likely connection between the two.

*What had German expectations been?
Did ~~Hitler~~ want to save forces for attacks
on airfields?*

The German reaction to the attacks on Berlin was not long in coming. Hitler had desired to deter all air attacks on German cities, and he had by his restraining directives to the Luftwaffe been bargaining since May for an end to the Bomber Command offensive. As the program of conquering Britain got under way, some of these restraints began to be deferred (at least for a time) to the requirements of winning superiority over RAF Fighter Command, and the decision prior to the 24th to open a German night offensive was such a deferment. Yet a great deal of

I. Middleton, Op. Cit., P. 148.

the bargaining restraint was still in effect; Berlin, in particular was of great value to Hitler, for while the minor raids being executed in the Ruhr could be ignored or explained away, a bombing of Berlin would spoil completely the illusion of "perfect safety" for the German people, an illusion for which Hitler was still quite willing to spare London. While the attack on the German capitol was not the only factor in the assault on London, it was therefore the critical factor, and Hitler made his decision on the morning after Berlin was bombed.¹

Since the real weakness of Fighter Command was not, however, known to the Germans, the decision to bomb London can not be viewed merely as an instance of the revenge motive (or "punishing of a contract-breaker") irrationally overriding all other practical considerations.² The Luftwaffe was not, in fact, aware of the critical state of Fighter Command's communications, and it had only "accidentally" been destroying the "Sector-Station" communication centers in its general bombardment of RAF airdromes. The invasion of Britain still was pending, still requiring the achievement of air superiority over the coasts, but the Luftwaffe command was far from agreed on tactical policy at this time; some planners had been advocating raids on London as a means of forcing a British commitment of Fighter Command's remaining reserves, while others urged a continued bombing of the airdromes to catch fighters on the ground.³

1. Wykesham, Op. Cit., Pp. 127-8.

2. McKee, Op. Cit., P. 152.

3. Collier, Op. Cit., P. 233.

Side effect of naval bombardment in Pacific!

Difficult view of British payoffs!

Were CVC ever deliberately targeted in WWII?

By removing the sparing of Berlin from the German prospects, Churchill tipped the scales in the multi-elemented German calculations and induced a shifting of attack which spared Fighter Command. By exposing London to attack, he led the Germans to see a net advantage where they did not have one, and to miss the real opportunity available to them.

The German motives in continuing the bombing of London, after the "Operation Sea Lion" invasion plan was finally given up on 17 September, hinged on the possibility (now, for the first time seriously considered by the Luftwaffe) that air attack alone might induce the British to surrender. Yet this assumption was accepted only with strong reservations, reservations which in fact required that bombing continue to be programmed for industrial targets, regardless of what effects on the national will were expected, reservations which moreover still required the attack to be labellable as a non-terror, non-anti-population, assault, for fear of British retaliation.¹

any Service difference of opinion?
The ^{weirder?} British reaction, however, to the heavier bombings (especially of London and Coventry) was to nonetheless interpret them as ^{How different were they?} meaningfully equivalent to all-out terror attacks, which seemed to leave little prospect of gain in any RAF restraints.² At about the same time (through reasoning processes which now seem slightly suspect) British target planners began to speculate that German morale might be a key target whose significance had previously been overlooked, and that an area bombing offensive

1. Collier, Op. Cit., Pp. 233, 261.

2. Kesselring, Op. Cit., P. 80.

might be more effective than a precise attack, on purely practical considerations. This conclusion, still quite tentative, stemmed partially from the disappointing accuracies shown in missions against precise targets, and also from a flood of advice from sources as remote as President Roosevelt and the fiercely anti-German propagandist Vansittart, that German morale would never equal the performance of the British under the Blitz, and that heavy bombing of the German populace might lead to a breakdown of German civilian life, or even to a revolt.¹

FDR?

Yet British capabilities were still so limited as to preclude any really effective "terror raids", and the paradoxical result thus obtained that neither side correctly interpreted the other's intentions of attack in 1941, the German "limited" attack being not seen as such in Britain because of its inaccuracy by night, and the British "terror", or "area" attacks being misinterpreted because of their weakness.²

1. Webster and Frenkland, Op. Cit., P. 169.
2. Fitzgibbon, Op. Cit., P. 183.

VI. May, 1941 - February, 1942: The Lull

"The consensus of informed opinion is that German morale is much more vulnerable than our own."

-Air Marshal Portal¹

In the middle of May, 1941, as new theatres of operations opened in the Balkans and in eastern Europe, the German assault on Britain quickly tapered off. Over the period of June, 1941 to February, 1942, the Luftwaffe contented itself with a series of probing attacks and reconnaissance flights, coupled with an occasional retaliation raid for attacks by Bomber Command, a raid on London on the 28th of July, for instance, being explicitly announced as the reprisal for an RAF raid on Berlin.²

Bomber Command continued its program of strikes against various targets on the continent, still changing objectives often, still varying between precise and area targets, and occasionally even attempting daylight attacks. Yet the level and intensity of the assault was slow to rise, and heavy casualties between August and November led to a decision on 13 November to reduce the level of raids until larger forces had been accumulated.³

With the RAF raids on German thus curtailed by a conservation program, few Luftwaffe sorties were flown against Britain. Bombing activity, which had been light over the period from June to November, 1940, thus became very light from November to February, and what had seemed to be an impending exposure of all the civilian population of both sides to severe aerial bombardment

1. Webster and Frankland, Op. Cit., P. 183.

2. Collier, Op. Cit., P. 300.

3. Webster and Frankland, Op. Cit., P. 186.

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1. Webster and Frankland, Op. Cit., P. 183.

2. Collier, Op. Cit., P. 300.

3. Webster and Frankland, Op. Cit., P. 186.

failed to materialize.

Bomber Command's offensive in the summer and fall of 1941 had been limited in size and scope only by technical capacity; yet the British inability to mount severe raids into Germany in fact led Hitler to a restriction of his own air activity, in the belief that he was thereby limiting the air assault on the Reich.¹ Luftwaffe assaults on Britain in late 1941 thus were limited to reprisal attacks designed to give an impression of precise reciprocity for British raids on Germany, and thereby perhaps to discourage such raids.

While few clear distinctions now could be drawn limiting either side's bombing, the Germans felt that they had not yet inflicted a maximum of punishment on Britain, and hoped that at the least the British would appreciate this. Moreover, Hitler decided that distinctions could perhaps be communicated relative to the volume of attack rather than type of target, that if the German air offensive was held back now to a low rate of attack, the British would perhaps similarly limit themselves. It is likely that Hitler saw himself as the beneficiary of voluntary British restraints over the latter portion of 1941, and that he was in fact overestimating the technical ability of the RAF to mount an offensive at this time.²

There is no evidence to indicate that the Luftwaffe lull or the reprisal raids had any actual deterring effect on the British leadership. German radio broadcasts about "reprisal raids"

1. Collier, Op. Cit., P. 300.

2. Ibid, P. 302.

*Delaney
policy*

were often interpreted simply as moral boosters for the German people,¹ while the lull in the Luftwaffe attack was seen, moreover, as a German over-commitment to the Russian front, preventing serious raids on Britain. The possibility that the Germans were (or would be) exercising restraints was given little credence, and the failure of the RAF to go over completely to area bombing was due only to a few lingering uncertainties as the form of attack offering the greatest practical results.

1. Alexander George, Propaganda Analysis, White Plains, New York, 1959, P. 118.

VII. February, 1942 - May, 1945: The All-Out Finale

"International law can always be argued pro and con, but in this matter of the use of aircraft in war there is, it so happens, no international law at all."

-Marshal of the RAF Harris¹

On 14 February, 1942, orders were issued to Bomber Command to embark on a new offensive of which the primary target would now be the morale of the German people.² "Area" or "morale" bombing had several times been tried by the British before (and, often, perhaps, unintentionally accomplished by both sides); it now was to become a general policy, drawing the largest part of Bomber Command's tonnage from 1942 to 1945.³

The offensive began with a series of attacks on the Ruhr city of Essen between March 8 and 10, followed on the 28th by a spectacular fire raid of 200 bombers on the old German port of Luebeck. From here the offensive grew almost continuously, with raids occasionally of more than 1000 aircraft, the growth of the area assault being limited only by technical or meteorological obstacles, by a diversion to French railways in 1944, and to a limited extent, by some renewed efforts at night precision bombing in 1944 and '45 (based on new night navigation devices).⁴ No longer would a city on Germany be spared because of its remoteness from clearly military targets, no longer would specific targets in large cities be aimed at, rather than the city as a whole, and no longer would Bomber Command's offensive be so

1. (Sir) Arthur Harris, Bomber Offensive, London, 1947, P. 177.
2. Denis Richards and Hilary St.G. Saunders, Royal Air Force 1939-45, (Vol. II), London, 1954, P. 118.
3. Bernard Brodie, Strategic Air Power in World War II, Santa Monica, California, 1957, P. 31.
4. U.S. Strategic Bombing Survey, "The Effects of Strategic Bombing on the German War Economy, Washington, 1945, P. 2.

limited in volume as to make such distinctions imperceptible.

The Luftwaffe was ordered on 14 April to begin a series of reprisal raids calculated to inflict maximum suffering on the British population, aimed at militarily insignificant towns of great historical or cultural value.¹ These "Baedeker Raids" continued into the summer of 1942 (with one more October raid, on Canterbury), but the Luftwaffe was unable to match the tonnage of the greatly augmented British effort.

Despite the intensity of the RAF raids on other German cities in 1942, the assault on Berlin was not resumed until January, 1943, whereupon the Luftwaffe replied with an attack on London and another series of scattered raids lasting into May. On 27 January, 1943, daylight bombers of the United States Army Air Force had made their first attack on Germany; the weight of this American assault, directed usually against precision targets, and only occasionally at area targets, was to be a substantial addition to that of Bomber Command for the rest of the war.²

On July 24 began the the massive RAF fire raids on Hamburg, which did an unprecedented amount of damage to the town over the next four days.³ Luftwaffe reprisals were weak over the last half of 1943, but early in 1944 there began a series of relatively effective night assaults on London (the "Baby Blitz"), which continued into May. The first V-1 bombs aimed at London were launched on 10 June, 1944, the first V-2's on 8 September, both these unguided, random weapons being again openly labelled

1. Collier, Op. Cit., P. 305.

2. Brodie, Op. Cit., Pp. 4-6.

3. Hilary St.G. Saunders, Royal Air Force 1939-45 (Vol.III), London, 1954, P. 77.

as reprisal weapons.¹ From February, 1942 on, in fact, the German government frequently stated that Luftwaffe attacks on Britain were to be considered retaliation for the Allied air offensive. Evidence moreover indicates that discrete efforts were made by the German Foreign Ministry to negotiate some mutual limiting of attack through contacts in neutral countries, with apparently a total lack of success.²

The Anglo-American bomber offensive, while occasionally diverted to V-1 or V-2 launching areas, rolled on uninhibited in fact to April, 1945, when the entry of Allied ground forces into Germany began finally to limit the choice of targets.

The period from 1942 to 1945 saw an Anglo-American offensive based exclusively on estimates of direct practicality, with no departures therefrom for purposes of bargaining or deterrence. British planners tended to view the Blitz as the worst punishment the Germans could have inflicted, a punishment which was in fact far less severe than had been expected, a punishment which was not likely to be negotiable with Germany, and, at any rate, a punishment which could be absorbed again in the future as the price of great strategic advantages (such as the advantages now definitely seen in an area offensive against Germany).

The Baedeker Raids in fact were clearly intended to warn Britain that the Blitz could have been worse and could be reproduced in a worse form in the future. The Baedekers had not

1. Collier, *Op. Cit.*, Pp. 367, 406.

2. Ulrich Von Hassel, Diaries, Garden City, New York, 1947, P. 351.

been convincing, however, for while more sensitive targets were aimed at, smaller tonnages were delivered, and the suffering of Britain's populace was considerably less in such "terror" attacks, than it had been in the "discriminate" Blitz.

All the bargaining actions of the rest of the war thus arise on the German side. The frequent German broadcasts, dismissed in the West as propaganda, the attempts at negotiation in neutral countries, the failure to bomb London during the Baedekers, until 1943 when Berlin was again bombed, the "Baby Blitz" on London in 1944, and the V-bombs, all these represent actions aimed unsuccessfully by the German leadership at a form of deterrence, rather than at strictly physical goals. All of these attempts at deterrence were to fail, however, for lack of awesomeness, if for no other reason.

VIII. Conclusions

"Here is a chapter of war which they have not chosen to open upon us because they cannot tell what may be written on its final pages."

-Winston Churchill¹

"To cause inconvenience and unhappiness to the enemy is a legitimate and reasonable military aim in war, but in view of the great promises made by Douhet and his followers, and in view also of the very great military resources invested in it, the urban-area bombing of World WarII must be set down as a failure."

-Bernard Brodie²

Over the years of the Second World War a long series of limits to aerial warfare was proposed by both sides, by word, and often more significantly, by deed. Of these, some were accepted, some were not recognised, and some were rejected. Rated roughly in order of stringency (although not in order of precision or intelligibility) they ran: "no air raids at all", "air raids only on targets away from civilian population", "attacks only on tactical targets", "attacks only on military and industrial targets, by day", the same by night, and the least stringent, "no deliberate terror attacks". Limits on general volume, and "no raids on national capitols" also were observed, but it is harder to rank these.

The extent to which the mutual recognition of such limits was due to prior deliberations and declarations is not easy to determine. Various proposals for rules of aerial warfare had been put forward (but never ratified) at the Hague in 1923, and at the Washington Disarmament Conferences, generally making only the

1. Taylor, Op. Cit., P. 75.

2. Brodie, Op. Cit., P. 22.

distinction, however, between "strictly military" targets and and targets close to civilians, which were not, therefore, "strictly military".¹ Hitler himself had in 1935 proposed limits to the areas open to aerial bombing, such as the area of "tactical combat", or more specifically, the area within the range of both side's artillery; at other times the Fuhrer alluded to a total abolition of aerial bombing to be agreed to by all sides.²

Yet while the "words" of the prewar period may account for the general intelligibility and acceptability of certain distinctions of limitation, others, such as "no capitol cities" were simply evolved in practice, being communicated and accepted by "deeds".

It is probably fair to say that Nazi Germany generally gave more support to limits on aerial warfare than the Allies did, at least after May, 1940. For reasons of genuine lack of opportunity, or for failure to see opportunity, the German leadership did not count on winning its war by aerial bombardment, and with its strong aversion to domestic austerity, it preferred a limited air war instead. It may be the case that Germany could not have overcome the handicap in aircraft development and production imposed prior to 1935 by the Versailles treaty, without giving up the heavy bomber; it may also be true that Germany completely missed the significance of the bomber. In any event, Germany desired limits; but unfortunately for the Germans, their bargain-

1. Spaight, Air Power and War Rights, P. 101.

2. Ibid, P. 102.

ing for such limits was poorly executed in several respects.

German propaganda under Goebbels was not fully harnessed to the task of communicating the nation's intent; Luftwaffe complaints of misinterpretations and distortions of its campaigns were recurrent, and on crucial questions of fine distinction, such as Warsaw and Rotterdam, broadcasts threatening other cities with similar imminent fates served to undermine the general German purpose. The deliberate pre-war tendency (in pursuit of lesser objectives) to threaten all-out air attack if German wishes were not granted, similarly made ambiguous the wartime German intention to abstain from such attack except in retaliation.

Beyond the distortions of propaganda, however, the Germans chose rather incautiously at several points to interpret borderline opportunities in their own favor, opportunities which might not be seen to be so "tactical" or "strictly military" to the other side. For a nation as averse to bombing as Germany, the severity of the final raid on Warsaw and the dive-bomber attack on Rotterdam were precarious moves, as was the decision to add a night offensive against Britain, based, as it was, on a serious overestimate of bombing accuracy.

Thirdly, if the Germans really hoped to thus limit the war, it would seem that a careful measure of the values of an opponent need be taken before threatening its very existence. While France proved willing to surrender before expending the air war, Britain preferred, under Churchill, to drop limits whenever the national existence was even threatened, whenever a dropping of such limits

Suppose Hitler had not threatened or intended to invade.

*Similar contrast
between actual
SU position and
K's threats.*

offered a contribution to survival. By threatening to invade Britain, Germany more exposed herself to air assault.

Finally, to the extent that a German ability to limit the war depended on inflated foreign beliefs in the awesome capabilities of the Luftwaffe, it was unwise to demonstrate how limited these capabilities were; it seems very likely, for instance, that if the British had known what the Blitz would be like, they would not in 1939 have been restrained by fear of a "knockout blow", as indeed they were not restrained later by fear of the "terror raids".

The severity of the Allied air offensive came as a surprise to Hitler, although it was still not a "knockout blow". Perhaps the German aversion to air attack would indeed have been fortified if there had been foreknowledge of its actual severity, and perhaps the bargaining for limits might then have been conducted with more care. As it was the Germans did fairly consistently seek limits, but also quite ineptly.

In the Allied calculations after 1940 relative to aerial warfare, the fruits of bargaining were regarded as negligible and valueless, when compared to the advantages seen in an "area" or "terror" assault on the German populace. In the event, however, area bombing proved very disappointing, not only in the destruction of industries located in cities, but in the reducing of the German willingness to serve the Nazi regime, and the optimistic calculations of 1941 have been subjected to much criticism since the war.

A strong case has in fact been made that from practical non-

bargaining considerations alone, the area attack by night was a bad investment, and that a precision daylight assault by Bomber Command (even with higher losses) would have contributed more to the final victory.¹

It might be additionally contended that the reversal of the faith in "area" bombing, combined with a greater awareness of the German willingness to bargain, would have made deliberate Allied restraints after 1942 seem quite appropriate. It might be claimed that the "senseless" destruction of area bombing should have been used only as an unexecuted deterrent, to prevent the relatively weaker, yet deliberately terroristic Beedeker raids and "Baby Blitz", and the indiscriminate V-1 and V-2 attacks.

Yet the exaggerated hopes inherited from Douhet by the British planners outlived the exaggerated fears disproven in the Blitz, and no limitation was probable after 1941. Only German discretion designed to perpetuate the balance of the exaggerations would have made a persistent limited air war likely.

1. See Brodie, Op. Cit.,

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